Abstract of the Disclosure

An L bit for notifying another router of whether a self-router belongs to a connection-oriented network is newly provided in the options field of a conventional OSPF packet and the OSPF packet, including L bit is transmitted to another router. In this way, each router belonging a network can automatically recognize a router belonging to a connection-oriented network by detecting L bit. Then, by generating a routing tree, a connection-oriented network device can be identified in the routing tree and mapping between a connection-oriented network and a connectionless network can be performed in an edge device.